REMARKS

The Application has been carefully reviewed in light of the Office Action dated July 31, 2002 (Paper No. 4). Claims 1 and 58 to 66 are in the application, all of which are independent and have been amended herein. Reconsideration and further examination are respectfully requested.

Claims 1 and 58 to 66 have been rejected under 35 U.S.C. § 112, second paragraph. Applicants have reviewed the claims in light of the Office Action, and have amended the claims as deemed appropriate. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Turning to the art rejections, Claims 1 and 58 to 66 have been rejected under 35 U.S.C. §§ 102(b) and 102(e) over U.S. Patent Nos. 4,928,252 (Gabbe), 5,825,996 (Davis) and 6,101,513 (Shakib).

Claims 1 and 58 to 61

The present invention generally relates to providing a layout for pages on a recording sheet using a margin setter that is capable of setting a binding margin adjacent to a center line in the sheet such that the sheet is folded along a line in the binding margin for bookbinding, and a data re-sizer resizes the input data based on the printable area of the physical page and the margins and arranges the resized input data on the printable area based on the binding margin.

By virtue of this arrangement, it is possible to split a recording sheet into multiple recording sheets for bookbinding and to print the input data in a printable area of each of the

resulting sheets.

Turning to the language of the claims, Claim 1 defines a print layout device for providing a layout for a recording sheet and generating print data to be printed. The print layout device having a margin setter adapted to set a margin for a sheet, and a data-resizer adapted to re-size input data based on a print request in each of one or more logical pages, which is an input data area, in consonance with a printable area of a physical page obtained based on the margin set by the margin setter. A print data generator is adapted to print data to be printed by a physical page unit, based on the input data re-sized by the data re-sizer, wherein the margin setter is capable of setting a binding margin adjacent to a center line in a sheet such that the sheet is folded along a line in the binding margin for bookbinding and the data re-sizer performs a process for arranging the re-sized input data on the printable area based on the binding margin.

The applied art, namely Gabbe, Shakib and Davis, is not seen to teach or to suggest setting a binding margin adjacent to a center line in a sheet such that the sheet is folding along a line in the binding margin for bookbinding, and input data is re-sized and arranged on a printable area based on the binding margin.

Gabbe is seen to describe N-up printing such that multiple pages may be printed on a single recording sheet. At col. 6, lines 8 to 13, Gabbe is seen to describe parameters that may be specified to alternate margins between opposite edges of the sheet surface for successive recording sheets. However, this is not seen to teach or to suggest a binding margin adjacent to a center line in a sheet such that the sheet is folded along a line in the binding margin for bookbinding.

Davis is seen to describe a technique for printing to the edge of a print medium by

using a print medium that has perforated lines that circumscribe a printed area and defines a marginal area that is greater than the nonprintable edge region defined by a printer. In addition, the print medium has a score line 38 for folding the print medium. However, nothing in Davis is seen to teach or to suggest a binding margin adjacent to a center line in a sheet such that the sheet is folded along a line in the binding margin for bookbinding.

Shakib is seen to describe defining layouts for pre-stored data so that the pre-stored data can be viewed in different ways. Beginning at col. 15, line 46, Shakib describes a page format as shown in Fig. 4, and col. 16, lines 6 to 17 of Shakib is seen to describe that the page format definition includes a set of default margin settings. However, nothing in the page format of Figure 4, or the description at col. 23, lines 18 to 40 of Shakib, which is seen to describe X and Y dimensions of a physical page and a virtual page and the caching of print layout pages in order to output a physical page to the printer, is seen to teach or to suggest binding margins. Accordingly, Shakib, and in particular the cited portions of Shakib, is not seen to teach or to suggest a binding margin adjacent to a center line in a sheet such that the sheet is folded along a line in the binding margin for bookbinding.

Therefore, for at least the foregoing reasons, Claim 1 is believed to be in condition for allowance. Further, Applicants submit that Claims 58 to 61 are believed to be in condition for allowance for at least the same reasons.

Claims 62 to 66

The present invention concerns a print layout for printing a plurality of pages on one recording sheet, a data re-sizing means arranges re-sized input data for the plurality of pages

such that the input data is centered on the printable area.

Turning to the specific language of the claims, Claim 62 defines a print layout device for providing a layout for a recording sheet and generating print data to be printed. A margin setter is adapted to set a margin for a sheet, and a data-resizer is adapted to re-size input data based on a print request in each of one or more logical pages, which is an input data area, in consonance with a printable area of a physical page obtained based on the margin set by the margin setter. A print data generator is adapted to generate print data to be printed by a physical page unit, based on the input data re-sized by the data re-sizer, wherein, when the input data for a plurality of pages should be printed on one sheet, the data resizer performs a process for arranging the re-sized input data for the plurality of pages such that the input data are centered on the printable area.

None of the applied art, namely Gabbe, Davis and Shakib, is seen to teach or to suggest arranging the re-sized input data for the plurality of pages such that the input data are centered on the printable area.

Gabbe is seen to perform n-up printing such that a selected a grid-like structure to place multiple pages on a recording sheet provides the greatest coverage of the recording sheet. In the example shown in Figures 2A to 2C, it is determined that the grid in Figure 2C provides the most coverage of the surface area of the record sheet in a case that a user has specified a value of 13 for a number-up parameter. See col. 6, lines 61 to 68 and col. 7, lines 20 to 26. Thus, Gabbe is seen to determine a grid-like structure that optimizes a sheet's surface area, and is not seen to teach arranging the re-sized input data for the plurality of pages such that the input data are centered on the printable area.

Davis is seen to describe a technique for printing to the edge of a print medium by using a print medium that has perforated lines that circumscribe a printed area and defines a marginal area that is greater than the nonprintable edge region defined by a printer. In addition, the print medium has a score line for folding the print medium. A size determining means determines a size of a graphical image so that it is bigger than the area within the perforations but smaller than an area that would include the printer's nonprintable area. Referring to Figure 4, the image printed in the printable area of front panel 1 is not centered on front panel 1 or on a combination of front panels 1 and 4. Nothing in Davis is seen to teach or to suggest arranging the re-sized input data for the plurality of pages such that the input data are centered on the printable area.

As discussed above, Shakib is seen to describe defining layouts for pre-stored data so that the pre-stored data can be viewed in different ways. Beginning at col. 15, line 46, Shakib describes a page format as shown in Fig. 4, and the discussion of Shakib at col. 16, lines 6 to 17 is seen to describe a page format definition that consists of a set of default margin settings and position of virtual pages on the physical page. See col. 15, lines 46 to 64. However, nothing in the page format of Figure 4, or in any other portion of Shakib, is seen to describe arranging the positioning of the virtual pages such that they are centered on the printable area. Accordingly, nothing in Shakib, and in particular the cited portions of Shakib, is seen to teach or to suggest arranging the re-sized input data for the plurality of pages such that the input data are centered on the printable area.

Therefore, for at least the foregoing reasons, Claim 62 is believed to be in condition for allowance. Further, Applicants submit that Claims 63 to 66 are believed to be in

condition for allowance for at least the same reasons.

CONCLUSION

In view of the foregoing, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office by telephone at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

1. (Amended) A print layout device for providing a layout for a recording sheet and generating print data to be printed, said print layout device comprising:

a margin setter adapted to set a margin for a sheet;

a data-resizer adapted to re-size input data based on a print request in each of one or more logical pages, which is an input data area, in consonance with a printable area of a physical page obtained based on the margin set by said margin setter; and

a print data generator adapted to generate print data to be printed by a physical page unit, based on the input data re-sized by said data re-sizer,

wherein said margin setter is capable of setting a binding margin adjacent to a [the] center line in a sheet [for a bookbinding] such that the sheet is folded along a line in the binding margin for bookbinding and said data re-sizer performs a process for arranging the re-sized input data on the printable area based on the binding margin.

58. (Amended) A print layout device for providing a layout for a recording sheet and generating print data to be printed, said print layout device comprising:

margin setting means, for setting a margin for a sheet;

data-resizing means for re-sizing input data based on a print request in each of one

or more logical pages, which is an input data area, in consonance with a printable area of a physical page obtained based on the margin set by said margin setting means; and

generating means for generating print data to be printed by a physical page unit, based on the input data re-sized by said data re-sizing means,

wherein said margin setting means is also for setting a binding margin adjacent to a [the] center line in a sheet [for a bookbinding] such that the sheet is folded along a line in the binding margin for bookbinding and said data re-sizing means is also for performing a process for arranging the re-sized input data on the printable area based on the binding margin.

59. (Amended) A print layout method for providing a layout for a recording sheet and generating print data to be printed, said print layout method comprising the steps of:

setting a margin for a sheet;

re-sizing input data based on a print request in each of one or more logical pages, which is an input data area, in consonance with a printable area of a physical page obtained based on the margin set in said margin setting step; and

generating print data to be printed by a physical page unit, based on the input data re-sized in said data re-sizing step,

wherein said margin setting step includes setting a binding margin adjacent to a [the] center line in a sheet [for a bookbinding] such that the sheet is folded along a line in the binding margin for bookbinding and said data re-sizing step includes performing a process for arranging the re-sized input data on the printable area based on the binding margin.

60. (Amended) A print layout program for providing a layout for a recording sheet and generating print data to be printed, said print layout program comprising:

program code for setting a margin for a sheet;

program code for re-sizing input data based on a print request in each of one or more logical pages, which is an input data area, in consonance with a printable area of a physical page obtained based on the margin set by execution of said program code for margin setting; and

program code for generating print data to be printed by a physical page unit, based on the input data resized by execution of said program code for data re-sizing,

wherein said program code for margin setting also effects setting of a binding margin adjacent to a [the] center line in a sheet [for a bookbinding] such that the sheet is folded along a line in the binding margin for bookbinding and said program code for data re-sizing also effects performing a process for arranging the re-sized input data on the printable area based on the binding margin.

61. (Amended) A memory medium storing computer executable instructions for performing a print layout method for providing a layout for a recording sheet and generating print data to be printed, said print layout method comprising the steps of:

setting a margin for a sheet;

re-sizing input data based on a print request in each of one or more logical pages, which is an input data area, in consonance with a printable area of a physical page obtained based on the margin set in said margin setting step; and

generating print data to be printed by a physical page unit, based on the input data re-sized in said data re-sizing step,

wherein said margin setting step includes setting a binding margin adjacent to a [the] center line in a sheet [for a bookbinding] such that the sheet is folded along a line in the binding margin for bookbinding and said data re-sizing step includes performing a process for arranging the re-sized input data on the printable area based on the binding margin.

62. (Amended) A print layout device for providing a layout for a recording sheet and generating print data to be printed, said print layout device comprising:

a margin setter adapted to set a margin for a sheet;

a data-resizer adapted to re-size input data based on a print request in each of one or more logical pages, which is an input data area, in consonance with a printable area of a physical page obtained based on the margin set by said margin setter; and

a print data generator adapted to generate print data to be printed by a physical page unit, based on the input data re-sized by said data re-sizer,

wherein, when the input data for a plurality of pages should be printed on one sheet, said data resizer [re-resizer] performs a process for arranging the re-sized input data for the plurality of pages such that the input data are centered on the printable area.

63. (Amended) A print layout device for providing a layout for a recording sheet and generating print data to be printed, said print layout device comprising:

margin setting means for setting a margin for a sheet;

data-resizing means for re-sizing input data based on a print request in each of one or more logical pages, which is an input data area, in consonance with a printable area of a physical page obtained based on the margin set by said margin setting means; and

generating means for generating print data to be printed by a physical page unit, based on the input data re-sized by said data re-sizing means,

wherein, when the input data for a plurality of pages should be printed on one sheet, said data re-sizing [re-resizing] means is also for performing a process for arranging the re-sized input data for the plurality of pages such that the input data are centered on the printable area.

64. (Amended) A print layout method for providing a layout for a recording sheet and generating print data to be printed, said print layout method comprising the steps of:

setting a margin for a sheet;

re-sizing input data based on a print request in each of one or more logical pages, which is an input data area, in consonance with a printable area of a physical page obtained based on the margin set in said margin setting step; and

generating print data to be printed by a physical page unit, based on the input data re-sized in said data re-sizing step,

wherein, when the input data for a plurality of pages should be printed on one sheet, said data re-sizing [re-resizing] step includes performing a process for arranging the re-

sized input data for the plurality of pages such that the input data are centered on the printable area.

65. (Amended) A print layout program for providing a layout for a recording sheet and generating print data to be printed, said print layout program comprising:

program code for setting a margin for a sheet;

program code for re-sizing input data based on a print request in each of one or more logical pages, which is an input data area, in consonance with a printable area of a physical page obtained based on the margin set by execution of said program code for margin setting; and

program code for generating print data to be printed by a physical page unit, based on the input data resized by execution of said program code for data re-sizing,

wherein, when the input data for a plurality of pages should be printed on one sheet, said program code for data re-sizing [re-resizing] also effects a process for arranging the re-sized input data for the plurality of pages such that the input data are centered on the printable area.

66. (Amended) A memory medium storing computer executable instructions for performing a print layout method for providing a layout for a recording sheet and generating print data to be printed, said print layout method comprising the steps of:

setting a margin for a sheet;

re-sizing input data based on a print request in each of one or more logical pages,

which is an input data area, in consonance with a printable area of a physical page obtained based on the margin set in said margin setting step; and

generating print data to be printed by a physical page unit, based on the input data re-sized in said data re-sizing step,

wherein, when the input data for a plurality of pages should be printed on one sheet, said data re-sizing [re-resizing] step includes performing a process for arranging the re-sized input data for the plurality of pages such that the input data are centered on the printable area.

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